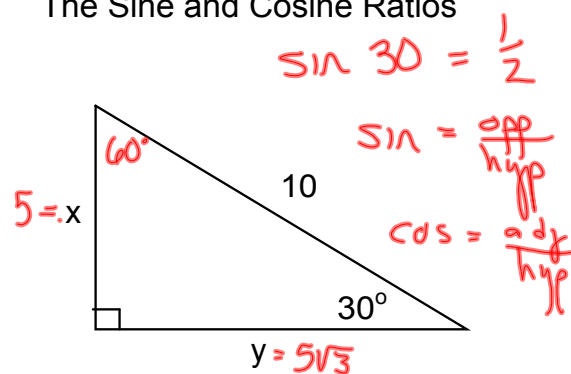


$$\tan A = \frac{\text{opp}}{\text{adj}}$$

7-4 (Continued)

The Sine and Cosine Ratios



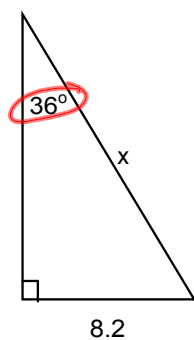
$$\sin = \frac{\text{opposite}}{\text{hypotenuse}}$$

$$\cos = \frac{\text{adjacent}}{\text{hypotenuse}}$$

$$\tan = \frac{\text{opposite}}{\text{adjacent}}$$

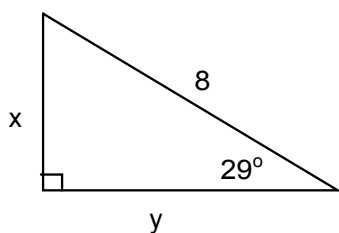
SOHCAHTOA

S *O* *H* *C* *A* *H* *T* *O* *A*



$$\sin 36 = \frac{8.2}{x}$$

$$x = \frac{8.2}{\sin 36} \quad x \approx 14.0$$



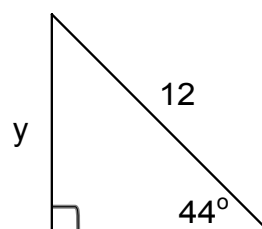
$$\sin 29 = \frac{x}{8}$$

$$8 \cdot \sin 29 = x$$

$$3.9 \approx x$$

$$\cos 29 = \frac{y}{8}$$

$$7.0 \approx y$$



$$\cos 44 = \frac{x}{12}$$

$$x \approx 8.6$$

$$\sin 44 = \frac{y}{12}$$

$$8.3 \approx y$$

Find the vertex angle of an isosceles triangle with legs of length 8, and a base of length 15.

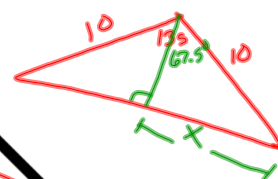
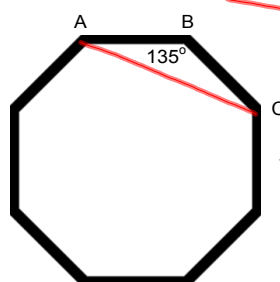


$$\sin x = \frac{7.5}{8}$$

$$69.6^\circ \approx x$$

$$139.3^\circ$$

Regular octagon
Find AC.



$$\sin 67.5 = \frac{x}{10}$$

$$x \approx 9.2$$

$$AC \approx 18.5$$